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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,577	10/28/2003	Edwin Raymond Chapman	960296.99004	8039

27114 7590 04/29/2011

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EXAMINER	
FORD, VANESSA L	

ART UNIT	PAPER NUMBER
1645	

NOTIFICATION DATE	DELIVERY MODE
04/29/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pat-dept@quarles.com

Office Action Summary	Application No.	Applicant(s)	
	10/695,577	CHAPMAN ET AL.	
	Examiner	Art Unit	
	VANESSA L. FORD	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10,42-44,47-49,69 and 70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10,42-44,47-49,69 and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment filed November 30, 2010 has been entered. Claims 1-9, 11-41, 45-46 and 50-68 have been canceled. Claims 10, 42-44, 47-49 and 69-70 are under examination.

Rejections Maintained

2. The rejection under 35 U.S.C . 101 paragraph is maintained for claims 10 and 42-44 for the reasons set forth on pages 2-5, paragraph 3 of the previous Office Action.

The rejection is re-iterated below:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10 and 42-44 are rejected under 35 U.S.C. 101 because the claimed invention the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

Independent claim 10 is a complex of a ligand and a polypeptide, wherein the polypeptide comprises the isolated amino acid sequence selected from (i) the amino acids 40-60 of SEQ ID No:7 (mouse synaptotagmin II botulinum toxin serotype B (BoNT/B)-binding domain) and (ii) the amino acids 40-60 of SEQ ID NO:9 (rat synaptogmin II botulinum toxin serotype (BoNT/B)-binding domain) wherein the ligand is BoNT/B and binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or SEQ ID NO:9.

The claimed invention is directed to a complex of a ligand and a polypeptide wherein the ligand is BoNT/B. The specification asserts a utility for the polypeptide. The specification asserts an utility for the BoNT/B which is the ligand. The instant specification lacks a specific and substantial utility for the claimed complex of a ligand and a polypeptide. The instant specification discloses a method for reducing BoNT/B cellular toxicity in target cells such as neurons by reducing the synaptotagmin I (syt I) and synaptotagmin II (syn II) protein levels in target cells by inhibiting BoNT/B related cellular functions of syt I and syn II (page 12). The specification teaches a method for screening for agents that block BoNT/B and polypeptide binding (page 14). The specification teaches using the polypeptide of the complex to detect BoNT/B or *Clostridium botulinum* (page 17). The utilities disclosed in the specification *only* disclose utilities for the polypeptide or the ligand, BoNT/B but not a complex of a ligand and a polypeptide wherein the ligand is BoNT/B.

Applicant's Arguments

Applicant urges that they have clearly provided specific and substantial utility for their invention. Applicant urges that the invention can be used to provide a method of identifying agents that can block the binding Between BoNT/B and synaptogmin I or II. Applicant urges that the specification points to specific BoNT/B binding domains of synaptogmin I and II and the binding of the BoNT/b to those domains in the context of identifying agents that can block interaction between BoNT/B and synaptogmin I or II. Applicant urges that the instant specification has a substantial or "real word use".

Applicant asserts that claim 47 recites a complex of antibody with a polypeptide herein the polypeptide is a fragment of synaptogmin II. Applicant urges that in practice, one of skill in the art would not have to use a transgenic animal to produce an antibody or synaptogmin II. Applicant urges neither does one need a transgenic animal to from the complex claim in claim 47. Applicant urges that paragraphs [00079-00081] of the specification demonstrate that proteins such as BONT/B can be injected into a mammal and complex form between BONT/B and synaptogmin II in the animal.

Applicant urges that it is well known in the art to inject an antibody into an animal so that the antibody complexes specifically with the protein which the antibody recognizes.

Examiner's Response to Applicant's Arguments

Applicant's arguments filed November 30, 2010 have been fully considered but they are not persuasive.

Claim 10 is drawn to a complex of a ligand and a polypeptide, wherein the polypeptide comprises the isolated amino acid sequence selected from the amino acids 40-60 of SEQ ID NO.7 and the amino acids 40-60 of SEQ ID NO:9 wherein the ligand is BoNT/B and binds to the polypeptide at amino acids 40 to 60 of SEQ ID No:7 or SEQ ID No:9.

It should be noted that the claims require that BoNT/B binds to amino acids 40 to 60 of SEQ ID No:7 or SEQ ID No:9. Thus, the claims are complex, that is *all ready* bound. Applicant asserts that their invention has been described, defined and enabled by the instant specification. Applicant urges that the instant invention can be used to identifying agents that can block binding of BoNT/B and syt I or II or identify agents that can bind BoNT/B binding domain. Scientifically, when a ligand and polypeptide form a complex they are *bound*. In the art, screening assays that are used to identify compounds that bind or block binding are obtained by measuring *the formation of a complex or the lack thereof*. Thus, this invention *cannot* be used to screen or identify agents because the ligand and the polypeptide are *bound*. What is being measured? The complex is already formed. How can you screen for other agents?

Applicant specifically asserts that the claims have utility and can be used in FRET assays to measure binding or binding inhibition. The Examiner disagrees with this assertion because the complex does not have an identifier or fluorescent tag or quencher. Nor does this complex work in a standard *in vitro* assay. The claims do not identify what is being detected? What would the results of the assay be?

The use of the invention disclosed by Applicant is not specific nor substantial. Applicant has not taught how to use the claimed invention. Therefore, the skilled artisan cannot use the claimed invention. Applicant has not satisfied the requirements for utility under 35 U.S.C. 101.

In view of all of the above, this rejection is maintained.

3. The rejection under 35 U.S.C . 101 paragraph is maintained for claims 47-49 and 69-70 for the reasons set forth on pages 5-8, paragraph 4 of the previous Office Action.

Claims 47-49 and 69-70 are rejected under 35 U.S.C. 101 because the claimed invention the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

Independent claim 47 is a complex of a ligand and a polypeptide, wherein the polypeptide comprises the isolated amino acid sequence selected from (i) the amino acids 40-60 of SEQ ID No:7 (mouse synaptotagmin II botulinum toxin serotype B (BoNT/B)-binding domain) and (ii) the amino acids 40-60 of SEQ ID NO:9 (rat synaptogmin II botulinum toxin serotype (BoNT/B)-binding domain) wherein the ligand is BoNT/B and binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or SEQ ID NO:9 and reduces binding of BoNT/B to the polypeptide, and wherein the complex is located *in vivo* in a mammal.

Independent claim 69 is a complex of a ligand and a polypeptide, wherein the polypeptide comprises the isolated amino acid sequence selected from (i) the amino acids 40-60 of SEQ ID No:7 (mouse synaptotagmin II botulinum toxin serotype B (BoNT/B)-binding domain) and (ii) the amino acids 40-60 of SEQ ID NO:9 (rat synaptogmin II botulinum toxin serotype (BoNT/B)-binding domain) wherein the ligand is

an antibody against said amino acid sequence and binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or SEQ ID NO:9, thereby reducing binding of BoNT/B to the polypeptide.

The claimed invention is directed to a complex of a ligand and a polypeptide wherein the ligand is and antibody that binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or at amino acids 40 to 60 of SEQ ID NO:9 and reduces binding of BoNT/B to the polypeptide. The specification asserts a utility for the polypeptide. The specification asserts an utility for the antibody which is the ligand. The instant specification lacks a specific and substantial utility for the claimed complex of a ligand and a polypeptide. The instant specification discloses a method for reducing BoNT/B cellular toxicity in target cells such as neurons by reducing the synaptotagmin I (syt I) and synaptotagmin II (syn II) protein levels in target cells by inhibiting BoNT/B related cellular functions of syt I and syn II (page 12). The specification teaches a method for screening for agents that block BoNT/B and polypeptide binding (page 14). The specification teaches using the polypeptide of the complex to detect BoNT/B or *Clostridium botulinum* (page 17). The utilities disclosed in the specification only disclose utilities for the polypeptide or the ligand which is the antibody that binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or at amino acids 40 to 60 of SEQ ID NO:9 and reduces binding of BoNT/B to the polypeptide but not a complex of a antibody and a polypeptide. The instant specification has failed to show that claimed complex comprising the polypeptide and the antibody that binds to the polypeptide at amino acids 40 to 60 of SEQ ID NO:7 or at amino acids 40 to 60 of SEQ ID NO:9 can reduce binding of BoNT/B to the polypeptide. Page 14 of the instant specification discloses monoclonal and polyclonal antibodies that are specific for the BoNT/B binding domains of syt I and syt II to block the BoNT/B binding sites on syt I and syt II. The antibody blocks the binding of the BoNT/B binding sites on syt I and syt II and *not* the complex comprising the antibody and a polypeptide. The instant specification has not established that the claimed complex would be capable of reduce binding of BoNT/B to the polypeptide.

In regards to claim 47 which recites the limitation "...wherein the complex is located in vivo in a mammal", this claim and the claims which depend from claim 47 are not supported by either a credible asserted utility or a well-established utility.

Neither the specification as filed nor any art of record discloses or suggests any specific property or activity for the animals such that a utility would be well established for the animals.

Applicant's Arguments

Applicant urges that they have clearly provided specific and substantial utility for their invention. Applicant urges that the invention can be used to provide method of

identifying agents that can block the binding between BoNT/B and synaptogmin I or II. Applicant urges that the specification points to specific BoNT/B binding domains of synaptogmin I and II and the binding of the BoNT/B to those domains in the context of identifying agents that can block interaction between BoNT/B and synaptogmin I or II. Applicant urges that the instant specification has a substantial or "real word use".

Applicant asserts that claim 47 recites a complex of antibody with a polypeptide herein the polypeptide is a fragment of synaptogmin II. Applicant urges that in practice, one of skill in the art would not have to use a transgenic animal to produce an antibody or synaptogmin II. Applicant urges neither does one need a transgenic animal to from the complex claim in claim 47. Applicant urges that paragraphs [00079-00081] of the specification demonstrate that proteins such as BONT/B can be injected into a mammal and complex form between BONT/B and synaptogmin II in the animal. Applicant urges that it is well known in the art to inject an antibody into an animal so that the antibody complexes specifically with the protein which the antibody recognizes.

Examiner's Response to Applicant's Arguments

Applicant's arguments filed November 30, 2010 have been fully considered but they are not persuasive.

It should be noted that the claims require that BoNT/B binds to amino acids 40 to 60 of SEQ ID No:7 or SEQ ID No:9. Thus, the claims are complex that is *all ready* bound. Applicant asserts that their invention has been described, defined and enabled by the instant specification. Applicant urges that the instant invention can be used to

identifying agents that can block binding of BoNT/B and syt I or II or identify agents that can bind BoNT/B binding domain. Scientifically, when a ligand and polypeptide form a complex they are *bound*. In the art, screening assays that are used to identify compounds that bind or block binding are obtained by measuring *the formation of a complex or the lack thereof*. Thus, this invention *cannot* be used to screen or identify agents because the ligand and the polypeptide are *bound*. What is being measured? The complex is already formed. How can you screen for other agents?

Specifically for claims 47 and 69, it requires that the complex is formed by a ligand and a polypeptide, wherein the ligand is an antibody the binds to the polypeptide and the polypeptide comprises amino acids 40 to 60 of SEQ ID NOs.7 or 9 and this is takes place *in vivo*. As stated above, complex is *bound*. How can this complex be used for identifying compounds? Applicant has already identified in the claim that the ligand is an antibody the binds to polypeptide comprising amino acids 40 to 60 of SEQ ID NOs.7 or 9. Applicant specifically asserts that the claims have utility and can be used in FRET assays to measure binding or binding inhibition. The Examiner disagrees with this assertion because the complex does not have an identifier or fluorescent tag or quencher. Nor does this complex work in a standard *in vitro* assay. The claims do not identify what is being detected? What would the results of the assay be?

The use of the invention disclosed by Applicant is not specific no substantial. Applicant has not taught how to use the claimed invention. Therefore, the skilled artisan cannot use the claimed invention. Applicant has not satisfied the requirements for utility under 35 U.S.C. 101.

In view of all of the above, this rejection is maintained.

Status of the Claims

4. No claims allowed.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VANESSA L. FORD whose telephone number is (571)272-0857. The examiner can normally be reached on 9 am- 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nickol can be reached on (571) 272-0835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VANESSA L FORD/
Primary Examiner, Art Unit 1645
April 25, 2011